

**II. Rejection Under 35 U.S.C. § 112, first paragraph**

Claims 53-67 and 83-99 have been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. The Examiner asserts that “[n]o **support** is seen for an inner layer as presently claimed,” i.e., an inner layer which does not comprise an effective amount of a fire retardant agent. See page 2 of the present Office Action (emphasis added). Applicants respectfully traverse this rejection.

The enablement requirement refers to the requirement the specification describe **how to make and how to use** the invention. See M.P.E.P. § 2164 (emphasis added). The enablement requirement of 35 U.S.C. § 112, first paragraph, is separate and distinct from the description requirement. *Id.* The description requirement refers to the requirement of descriptive **support** in the disclosure for claim limitations. See e.g., § 2161 (emphasis added).

In the present case, the specification provides both a description of how to make and use a cable comprising, *inter alia*, an inner layer to protect the conductor against water which does not comprise an effective amount of a fire retardant agent **and** descriptive support for such a cable.

With respect to the descriptive support for the presently claimed inner layer, a lack of literal basis in the specification for a negative limitation may not be sufficient to establish a prima facie case for lack of descriptive support. M.P.E.P. § 2173.05(i) (citing Ex parte Parks, 30 USPQ2d 1234, 1236 (Bd. Pat. App. & Inter. 1993)). The subject matter of the claim need not be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement. M.P.E.P.

§ 2163.02. The fundamental factual inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed. M.P.E.P. § 2163.02. Possession of the claimed invention is shown by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention, by description of an actual reduction to practice, by showing that the invention was "ready for patenting" such as by the disclosure of drawings or structural chemical formulas that show that the invention was complete, and/or by describing distinguishing identifying characteristics sufficient to show that the applicant was in possession of the claimed invention. *Id.*

In the present case, nowhere does the specification discuss the **inclusion** of an effective amount of fire retardant agent in the water-resistant inner layer. In contrast, the specification recites that "using a covering including a layer containing the fire retardant as described in PCT WO 99/05688 makes the **water resistance of the cable unsatisfactory.**" See page 3, lines 7-13 (emphasis added). In other words, the specification explicitly teaches that the inclusion of fire retardant defeats a purpose of the recited inner layer - water resistance. Moreover, the exemplified inventive composition, Example B at pages 13-14 of the present application, comprises an inner layer which does not comprise an effective amount of fire retardant agent, rather only Escorene LL 1004, a commercially available linear low density polyethylene. For at least these reasons, the written description requirement is satisfied in the present case.

With respect to the enablement requirement for the presently claimed inner layer, Applicants assert that the Examiner has failed to satisfy the initial burden to establish a

reasonable basis to question the enablement provided for the claimed invention.

M.P.E.P. § 2164.04 (citing In re Wright, 999 F.2d 1557, 1562 (Fed. Cir. 1993)). The M.P.E.P., citing Federal Circuit law, is very specific with regard to the procedures that Examiners must follow in order to establish whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement. See M.P.E.P. § 2164.01(a). A number of factors, known as the Wands factors, must be considered when making such a determination. *Id.* (citing In re Wands, 858 F.2d 731, 737 (Fed. Cir. 1988)). These factors include:

- (1) the breadth of the claims;
- (2) the nature of the invention;
- (3) the state of the prior art;
- (4) the level of one of ordinary skill in the art;
- (5) the level of predictability in the art;
- (6) the amount of direction provided by the inventor;
- (7) the existence of working examples; and
- (8) the quantity of experimentation needed to make or use the invention based

on the content of the disclosure. *Id.*

In evaluating these Wands factors, the M.P.E.P. requires the Examiner to consider all the evidence related to each one of these factors, and any conclusion of enablement must be based on the evidence as a whole. *Id.* In the present case, Applicants respectfully note that the Examiner has not addressed a single one of these factors and, therefore, has failed to meet her burden.

In order to be fully responsive, however, Applicants assert that the enablement requirement is indeed satisfied in the present case. For example, the claims are not so broad as to be non-enabled. As noted above, nowhere in the present specification is the inclusion of an effective amount of fire retardant agent in the water-resistant inner layer discussed. The present claims merely recite explicitly what is inherent in the invention, as evidenced by the specification. Therefore, the specification only teaches how to use a composition where fire retardant is excluded from the water-resistant inner layer. Moreover, because the nature of the present invention, a low-voltage electrical cable, it is clear that one of ordinary skill in the art would certainly know how to use the inventive cables. In fact, the specification sets forth examples of particular intended uses. See e.g., page 10, line 32 - page 13, line 3. The specification also provides working examples. As discussed above, the exemplified inventive composition, Example B at pages 13-14 of the present application, comprises an inner layer which comprises only a commercially available linear low density polyethylene, and does not comprise an effective amount of fire retardant agent. In addition, methods which are well-known in the art can be used to make the present invention. See e.g., page 10, lines 21-31, and pages 11-13. A patent need not teach, and preferably omits, what is well known in the art. M.P.E.P. § 2164.01. Accordingly, after analysis of the Wands factors, Applicants respectfully assert that the enablement requirement is satisfied in the present case.

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For at least these reasons, Applicants assert that this rejection is in error and respectfully request that it be withdrawn.

**III. Rejection Under 35 U.S.C. § 103(a)**

Claims 53-67 and 83-99 have been rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,339,189 to Caimi ("*Caimi*") in view of U.S. Patent No. 6,162,548 to Castellani et al. ("*Castellani*") for the reasons set forth on pages 3-5 of the present Office Action. Applicants respectfully traverse this rejection for at least the following reasons.

In order to establish a prima facie case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. M.P.E.P. § 2143. In the present case, this requirement has not been satisfied.

The Examiner has admitted that *Caimi* does not disclose an inner layer free of an effective amount of a fire retardant agent and, thus, relies upon *Castellani* to correct this deficiency. See page 4 of the present Office Action. However, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. M.P.E.P. § 2143 (*citing* In re Mills, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990)).

Moreover, it is improper to combine references where the references teach away from their combination. M.P.E.P. § 2145.

In the present case, neither *Caimi* nor *Castellani* suggests the desirability of modifying the inner layer of *Caimi*'s cables to exclude a fire retardant agent "so as to have an inner layer that has low water absorption in order to achieve lower energy dissipation levels and enhanced electrical performance" as proposed by the Examiner. See page 5 of the present Office Action. In fact, *Caimi* teaches away from a cable coated with an inner layer without a fire-resistance properties.

For example, *Caimi* differentiates its teachings and those of GB 2,294,801 at col. 2, line 63 – col. 3, line 6. GB 2,294,801 is drawn to a fire- and moisture-resistant electric cable comprising a conductor encased in a sheath of moisture proof material surrounded by a sheath of fire retardant material. See GB 2,294,801 at Abstract. *Caimi*, commenting on this patent, states:

[h]owever, no mention is made about the fire retardant properties of the said inner layer. As a matter of fact, the presence of the inner layer consisting essentially of a polyolefynic [sic] material would substantially reduce the overall fire resistance properties of the cable's sheath.

See col. 3, lines 1 - 6. Necessarily, as in GB 2,294,801, no mention is made about the fire retardant properties of the coating layer composition in the portion of *Castellani* relied upon by the Examiner. In fact, one of ordinary skill in the art would be led to believe that a polymeric composition according to *Castellani* is not fire retardant because *Castellani* does not discuss fire-resistance properties of its polymer mixture without fire retardants and discloses that a fire-resistant coating may be made by adding fire retardants to its compositions. See col. 5, lines 34-46.

Further, the inner sheath of moisture proof material in GB 2,294,801 that *Caimi* asserts would substantially reduce the overall fire resistance properties of the cable's

sheath "may be made from polyethylene or any other waterproof material such as polypropylene." See page 3, first paragraph of GB 2,294,801. In the present case, the polymer mixture of *Castellani* has a "very low water absorption index" and comprises a crystalline polypropylene homopolymer or copolymer and an elastomeric copolymer of ethylene with at least one particular alpha-olefin and optionally with a diene which has a particular tension set value. See col. 5, lines 8-12 and Abstract of *Castellani*. Thus, based on *Caimi*'s teachings about GB 2,294,801, one of ordinary skill in the art would be led to believe that the presence of an inner layer such as *Castellani*'s which comprises polyolefinic material but no fire retardants would similarly substantially reduce the overall fire resistance properties of the resulting cable's sheath. Accordingly, just as *Caimi* teaches away from GB 2,294,801, *Caimi* teaches away from the modification proposed by the Examiner in the present case.

Moreover, the proposed modification would change the principle of operation of *Caimi*'s invention. If the proposed modification would change the principle of operation of the prior art teaching being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. See M.P.E.P. § 2143.01 (*citing In re Ratti*, 123 U.S.P.Q. 349 (CCPA 1959)). In *In re Ratti*, the patentee taught a device which required rigidity for operation, whereas the claimed invention required resiliency. The court reversed the rejection holding the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in the primary reference as well as a change in the basic principle under which the primary reference construction was designed to operate." *Id.* at 352.

In the present case, *Caimi* requires that the inner layer have substantial fire-resistance properties. See e.g., Abstract and col. 3, lines 27-44 (e.g., lines 35-37 reciting “the inner layer is also endowed with substantial fire-resistance properties, differently from the known waterproof coating layers having no such characteristics”). *Caimi* discloses a careful balance of components in each of two layers in order to simultaneously achieve fire resistance, insulation resistance in the presence of moisture, and strippability. Such a combination of characteristics is difficult to achieve. For example, *Caimi* teaches that fire resistance increases as the amount of inorganic charge in the coating is increased, whereas the insulation resistance in the presence of moisture decreases. See col. 3, lines 12-15. Similarly, the presence of coupling agents in the coating reduces the fire resistance whereas it increases the insulation resistance. See col. 3, lines 15-20. *Caimi* reconciles the effects of these opposing influences and discloses

a cable which simultaneously has the desired properties of fire-resistance and of insulation resistance in the presence of moisture...[by forming a cable coating] formed of a double layer, the outer layer being constructed so as mainly to impart to said cable said fire-resistance properties and the inner layer being constructed so as to impart properties of insulation resistance in the presence of moisture [provided by a predetermined amount of coupling agent], while giving a substantial contribution to the overall fire-resistant properties of the cable.

See e.g., col. 3, lines 21-44.

Accordingly, here, as in In re Ratti, the proposed elimination of fire retardant from *Caimi*’s inner layer would require a “substantial reconstruction and redesign” of *Caimi*’s invention as well as “a change in the basic principle” under which *Caimi*’s invention was designed to operate. Specifically, in order to achieve the same level of fire-resistance of



*Caimi*'s cable in a cable resulting from the modification proposed by the Examiner, i.e., to remove the "substantial contribution to the overall fire-resistant properties of the cable" of *Caimi*'s inner layer, a larger but unknown amount of fire retardant would need to be incorporated in *Caimi*'s outer layer. Moreover, this, in turn, would lead to an undesirable increase in the thickness of the outer layer, itself possibly requiring substantial reconstruction and redesign. See col. 4, lines 9-15 (reciting that "by endowing the inner layer with substantial fire-resistant properties of the cable, the applicant has found that it is possible to advantageously reduce the thickness of the outer layer of the coating, with respect to the thickness of an outer layer enveloping an inner layer having no fire-resistant properties).

By removing the substantial contribution to the overall fire-resistant properties of the cable provided by *Caimi*'s inner layer, as suggested by the Examiner, the advantages touted by *Caimi* would be lost and the basic principle under which *Caimi* was designed to operate would be changed. Thus, for at least the foregoing reasons, here, as in In re Ratti, the teachings of the references are not sufficient to render the claims prima facie obvious.

Because *Caimi* teaches away from the proposed modification and because the proposed modification would require a "substantial reconstruction and redesign" of *Caimi*'s invention as well as "a change in the basic principle" under which *Caimi*'s invention was designed to operate, Applicants submit that a prima facie case of obviousness has not been established. For at least the foregoing reasons, Applicants respectfully request withdrawal of this rejection.

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**IV. Conclusion**

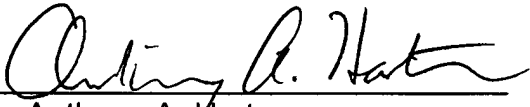
In view of the foregoing remarks, Applicants submit that the claimed invention is neither anticipated nor rendered obvious in view of the references cited against this application. Applicants therefore request reconsideration and reexamination of the application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

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